

Serial No. 09/783,002

- 5 -

Art Unit: 2633

REMARKS

Claims 1-3 and 10-21 are pending in this application. All of the claims were rejected under 35 U.S.C. §103. None of the claims is currently amended. Reconsideration is respectfully requested.

A brief summary of the claimed invention is an optical switch with bulk dispersion compensation on the input side and individual amplitude compensation on the output side. This is desirable for use in an optical switch which interfaces a long haul network with a metro network, particularly where the respective networks are operated at different power levels.

The Office argues that the invention is obvious because bulk compensation is known (see Eggleton) and individual compensation is known (see Fukushima). Applicant does not claim to have invented either bulk or individual compensation by way of this application. However, the knowledge of those two techniques does not provide any motivation to combine them in the claimed manner. Indeed, it is counter-intuitive to compensate twice. Adding compensation stages to a switch increases cost and complexity. It has heretofore been common to apply compensation in an optical switch, if at all, only once as taught by both Eggleton and Fukushima. Certainly there is no suggestion in those references that a second compensation stage should be employed. The Office states at page 2 "it would have been obvious to one of ordinary skill in the art at the time of the invention to use adjustable bulk compensation at the multiplexed input signal entering the node of Tsushima et al, in order to variably compensate for wavelength dispersion accumulated in the network due to non-linear effects and environmental changes." That statement misses the point because individual compensation could also correct for dispersion. The presently claimed invention employs two stages of compensation. The first

Serial No. 09/783,002

- 6 -

Art Unit: 2633

stage is a bulk compensation stage. The second stage is an individual compensation stage. The question, therefore, is why would one employ two stages of compensation in an optical switch, such as recited in claim 1 as "means for reducing a variance between inputs to the photonic network node by applying a dynamically adjusted bulk compensation to all channels of the optical signal; ... means for dynamically, adjustably compensating for individual channel amplitude impairment responsive to the monitoring means, based at least in part on output carrier power." (Claims 13 and 20 recite similar language) The answer cannot be found in the cited references, but it is claimed and taught in the Specification at pp. 10-11.

One reason for employing two compensation stages is that there are more contributors to individual variations in amplitude than there are for chromatic dispersion in a node that interfaces a long haul network with a metro network. As taught in the Specification at pp. 10-11, the errors from the long haul side build up in the way bulk compensators treat non-spectrally flat chromatic dispersion. Further, such a border node may mix signals from different chromatically dispersive paths, and the power level of the long haul network probably will not match that of the metro network. Therefore, there is a need for bulk dispersion compensation on the input side and individual amplitude compensation on the output side. A list of sources of amplitude error which can be removed is provided in the Specification at pp. 10-11. The cited references neither anticipate this particular problem nor suggest a solution. As such, the claimed two stage compensation technique is not taught or suggested by the cited combination.

For the reasons stated above, withdrawal of the rejections of claims 1, 13 and 20 is respectfully requested. Claims 2-3, 10-12, and 21 are dependent claims which further distinguish the invention, and which are allowable for the same reasons as their respective base claims.

Serial No. 09/783,002

- 7 -


Art Unit: 2633

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Applicants' Attorney at 978-264-4001 (X305) so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date


Holmes W. Anderson, Reg. No. 37,272
Attorney/Agent for Applicant(s)
Steubing McGuinness & Manaras LLP
125 Nagog Park
Acton, MA 01720
(978) 264-6664

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